AMENDEMENTS TO THE CLAIMS

Claim 1 (currently amended) A method for detecting an unbalanced disc with a compact disc (CD) drive, the CD drive comprising a pick-up head for reading data stored on a track on an optical disc, a motor for rotating the optical disc, and a photoelectric sensor for receiving a reflected laser beam, the method comprising the following steps:

(a) adjusting a rotary speed of the motor so that a vibration frequency of the CD drive is approximately equal to a resonance frequency of a coil of the pick-up head;

(b) when the vibration frequency of the CD drive is approximately equal to the resonance frequency of the coil of the pick-up head, comparing a voltage value of a central error (CE) signal with a threshold voltage;

(c) determining if the optical disc is an unbalanced disc according to a result of step (b); and

(d) generating the CE signal of step (b) by calculating an intensity difference between a left region and a right region of the photoelectric sensor, the left region corresponding to an area of the inner diameter of the track and the right region corresponding to the outer diameter of the track.

Claim 2 (original) The method of claim 1 wherein the method further comprises converting an optical signal, which is reflected from the optical disc and received by the pick-up head, into the voltage value.

Claim 3 (original) The method of claim 2 wherein the CE signal is generated according to the optical signal that is reflected from the optical disc and received by the pick-up head.

Claim 4 (original) The method of claim 1 wherein when the voltage value of the CE signal is larger than the threshold voltage, the optical disc is determined as an unbalanced disc.

Claim 5 (cancelled)

Claim 6 (previously presented) The method of claim 1 wherein generating the CE signal does not comprise calculating an intensity difference between a upper region and a lower region of the photoelectric sensor.

Claim 7 (previously presented) The method of claim 6 wherein generating the CE signal further comprises not utilizing a tracking error (TE) signal.

Claim 8 (previously presented) The method of claim 1 further comprising generating the CE signal as a voltage signal according to and proportional to the deviation of the pick-up head relative to a central position of the photoelectric sensor, and generating the voltage signal being larger when the left region or the right region receives more reflected laser beam than at the central position of the photoelectric sensor.

Claim 9 (currently amended) A system capable of performing detection of an unbalanced disc with a compact disc (CD) drive, the system comprising:

a pick-up head for reading data stored <u>on a track</u> on an optical disc, <u>the track having an inner diameter and an outer diameter that define the</u>

width of the track and said diameters located on the disc with respect to the center of the disc;

a motor for driving the optical disc to rotate at a certain rotary speed;

a means for detecting and adjusting the rotary speed of the motor to a frequency which is approximately equal to a resonance frequency of a coil of the pick-up head;

a photoelectric sensor for receiving a reflected laser beam; and

a control circuit for generating a central error (CE) signal by calculating an intensity difference between a left region and a right region of the photoelectric sensor, the left region corresponding to an area of the inner diameter of the track and the right region corresponding to the outer diameter of the track, the CE signal being for determining whether the optical disc is an unbalanced disc by comparing a voltage value of the CE signal with a threshold voltage.

Claim 10 (previously presented) The system of claim 9 wherein the photoelectric sensor converts an optical signal being reflected from the optical disc into the voltage value.

Claim 11 (previously presented) The system of claim 10 wherein the control circuit generates the CE signal according to the optical signal that is reflected from the optical disc and received by the pick-up head.

Claim 12 (previously presented) The system of claim 9 wherein the control circuit generates the CE signal by calculating an intensity difference between the left region and the right region of the photoelectric sensor, checks if the voltage value of the CE signal is larger than the threshold voltage, and the system determines the optical disc to be an unbalanced disc if the voltage value of

the CE signal is larger than the threshold voltage.

Claim 13 (previously presented) The system of claim 9 wherein the control circuit generates the CE signal without calculating an intensity difference between a upper region and a lower region of the photoelectric sensor.

Claim 14 (previously presented) The system of claim 13 wherein the control circuit generates the CE signal without utilizing a tracking error (TE) signal.

Claim 15 (previously presented) The system of claim 9 wherein the control circuit generates the CE signal as a voltage signal according to and proportional to the deviation of the pick-up head relative to the central position of the photoelectric sensor, and the voltage signal being larger when the left region or the right region receives more reflected laser beam than the central position of the photoelectric sensor.

Claim 16 (new) A method for detecting an unbalanced disc with a compact disc (CD) drive, the CD drive comprising a pick-up head for reading data stored on a track on an optical disc, the track having an inner diameter and an outer diameter that define the width of the track and said diameters located on the disc with respect to the center of the disc, a motor for rotating the optical disc, and a photoelectric sensor for receiving a reflected laser beam, the method comprising the following steps:

adjusting a rotary speed of the motor so that a vibration frequency of the CD drive is approximately equal to a resonance frequency of a coil of the pick-up head;

comparing a voltage value of a central error (CE) signal with a threshold voltage to generate a comparison signal;

determining if the optical disc is an unbalanced disc according to the

comparison signal;

generating the CE signal by calculating an intensity difference between a left region and a right region of the photoelectric sensor, the left region corresponding to an area of the inner diameter of the track and the right region corresponding to the outer diameter of the track; and

converting an optical signal, which is reflected from the optical disc and received by the pick-up head, into the voltage value.